U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

Hydrogen Fuel Cell Laboratory B-Roll

Scene-by-Scene Description

Get the facts behind the footage available on the U.S. Department of Energy's (DOE) Office of Energy Efficiency and Renewable Energy (EERE) B-Roll website at **eere.energy.gov/news/b_roll.cfm**.

Video Title: Hydrogen Fuel Cell Laboratory
Video Only/No Audio
Location: National Renewable Energy Laboratory, Golden, Colorado
Shoot Date: July 6, 2011
Total Running Time: 5:27

Scene 1: 00:05: Establishing shots of hydrogen fuel station. Vehicles powered by fuel cells are cleaner and more energy efficient than those powered by internal combustion engines.

Scene 2: 01:04: Hydrogen electrolyzer used to separate hydrogen from oxygen. A fuel cell harnesses the chemical energy of hydrogen and oxygen to generate electricity without combustion or pollution. The only by-products are pure water and useful heat.

Scene 3: 02:07: Laboratory control room. At this Fuel Cell Laboratory at the National Renewable Energy Laboratory, researchers test proton exchange membrane fuels cells (PEMFCs), with a focus on improving the performance and durability and reducing the cost of fuel cell components and systems.

Scene 4: 02:44: Compressor and hydrogen low-pressure and high-pressure storage tanks. Hydrogen can be stored in a variety of ways, but for hydrogen to be a competitive fuel for vehicles, the hydrogen vehicle must be able to travel a comparable distance to conventional hydrocarbon-fueled vehicles.

Scene 5: 03:42: Remote hydrogen fuel station. A hydrogen economy requires an infrastructure to deliver hydrogen from where it's produced to the point of end-use, such as a dispenser at a refueling station or stationary power site.

Scene 6: 04:19: Driving shots of hydrogen fuel cell vehicle. Fuel cells emit no emissions at the point of operation, including greenhouse gases and air pollutants that create smog and cause health problems.

Learn More about Fuel Cells

A fuel cell is a device that uses a fuel (such as hydrogen) and oxygen to create electricity by an electrochemical process. Fuel cells have the potential to provide power in stationary and portable power applications because they are energy-efficient, clean, and fuel-flexible. The EERE Fuel Cell Technologies Program works to advance the development and use of these technologies in the marketplace, with the ultimate goals of decreasing our dependence on oil, reducing carbon emissions, and enabling clean, reliable power generation.

More information about hydrogen fuel cell technologies can be found at the Fuel Cells Technologies Program website at **eere.energy.gov/hydrogenandfuelcells/**.